MARINE RECREATIONAL INFORMATION PROGRAM

FY Project Plan

Developing an Electronic Logbook To Census For-Hire Angler-Trip Effort, Catch and Harvest in Alaska

Created on

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1. Overview

1.1. Background

The ADF&G Division of Sport Fish has operated a program to register and license both sport fishing guides and sport fishing guide businesses since 1998. Saltwater information on guided sport fishing participation, effort, and harvest has been collected since 1998 (Sigurdsson and Powers 2009–2013).

In February, 1998 the Alaska Board of Fisheries (BOF) adopted regulations requiring logbooks for saltwater charter vessels statewide. Information on the amounts and locations of charter activity and participation and harvest by individual vessels and businesses was needed by the BOF for allocation and management of Chinook salmon, rockfish and lingcod, and by the North Pacific Fisheries Management Council (NPFMC) for allocation of Pacific halibut. To meet these information needs ADF&G implemented a saltwater sport fishing charter vessel logbook program for Division of Sport Fish.

In 1999, the NPFMC was considering proposals to limit the guided sport halibut harvest. NPFMC endorsed a two-prong approach to resolve the perceived impact of increased guided charter halibut fishing. The first was establishment of guideline harvest limits for two International Pacific Halibut Commission (IPHC) areas, and the second was a process to establish local area management plans for halibut fisheries in coastal communities.

Since 1998, the logbook design has undergone annual revisions, driven primarily by changes or improvements in the collection of halibut, lingcod and rockfish data through the logbook program, annual postal survey of a sample of licensed sport anglers (a.k.a. Statewide Harvest Survey), and expanded port sampling programs. In 2004, the Alaska Legislature adopted into statute the establishment of new licensing requirements and a logbook reporting requirement for all freshwater businesses in addition to the existing saltwater reporting requirements. For various reasons, both technical and policy-based, information on halibut harvests was not collected from 2002 through 2005. The collection of halibut data was resumed in 2006. In addition, the 2006 logbook was redesigned to require reporting of angler license numbers and the harvest and release numbers by angler in an effort to improve reporting and facilitate evaluation of the quality of logbook data.

The data from logbooks are compiled to show where fishing effort occurs, the extent of participation, and the species and numbers of fish kept and released by individual clients. This information is used for regulation decisions and the development and management of fisheries, for project evaluation, and for formulation of department policies and priorities that reflect angler needs, concerns, and preferences. It also provides ADF&G with a tool to promote management of Alaska’s resources for sustained yield.

Currently, a logbook record is required for every chartered or guided trip taken with clients, defined as an outing with one group of clients that ends when the clients and their fish (if fish were kept) are offloaded. Each trip is associated with an individual licensed business and guide.

In 2014 ADF&G hired a contractor to conduct a market survey of existing electronic logbooks, especially those including mobile applications and developed specifically for sport charter or recreational fishing activities. The focus of the survey was to determine if an electronic logbook system already existed that met the requirements of the projected ADF&G electronic logbook system closely enough to justify purchase or transfer of an existing system. The market survey project investigated the best examples of electronic logbook systems available to identify their strengths and weaknesses relative to the requirements of the projected ADF&G electronic logbook, review lessons learned by the system owners, and compile a set of recommendations to inform ADF&G's planning and decision-making process for moving forward with its pilot project.

Five systems most closely match the requirements of the ADF&G logbook. A detailed gap analysis was conducted of the features of each of the candidate systems. All of the candidate systems were developed recently, feature mobile applications, and overlap the requirements of the projected ADF&G electronic logbook to some degree. Only one of the systems is in production use, however, and none are available for direct purchase. The remaining systems were developed for pilot programs or are still in testing. Furthermore, none of the systems in their current state address the following key requirements of the desired ADF&G electronic logbook system:

• Identify individual anglers by name and license number. Several of the systems capture counts of anglers but do not identify individuals.
• Record catch and harvest by species to individual anglers.
• Ability for individual anglers to electronically sign trip reports to certify halibut catches.

The Southeast Region Headboat Survey (SRHS) system managed by NMFS and developed by Bluefin Data, Inc. (Bluefin) most closely matched the requirements of the ADF&G system. The SRHS system also included features not currently applicable to the ADF&G logbook program, such as inactivity reports and socio-economic surveys, and is fairly tightly-coupled to the specific requirements of the NMFS-managed headboat survey program. All of the five systems surveyed have interesting features that can inform the design of the ADF&G e-logbook program and two (iSnapper and SRHS) come with well-documented reports providing lessons learned, recommendations, and estimated costs that can also inform the ADF&G effort.

Key recommendations from the market survey included:

• Develop a custom system to meet the specific requirements of the ADF&G e-logbook program. None of the systems currently available offer a generic e-logbook platform that can be purchased and cost-effectively configured out-of-the-box for the ADF&G e-logbook. If possible, work with companies associated with the systems reviewed during the market survey to incorporate their

experience and existing reusable code components to potentially shorten the initial time to design and develop an e-logbook system meeting requirements of ADF&G.
• Include outreach to charter industry representatives in the development of e-logbook program procedures and user interface design. This will help to address industry concerns and improve system adoption. Consider including features ancillary to the fundamental logbook reporting functions but attractive to the charter industry.
• Consider the design of an electronic reporting solution with data collected from marine creel survey and dockside sampling projects in concert with the e-logbook system. At minimum, the e-logbook system should be able to integrate with data from the creel survey and dockside sampling projects by angler-trip which will require the design of a reliable trip identifier shared between both systems. Synchronized design and development of electronic reporting systems for both programs could result in shared code and resources that could reduce the overall cost of development for both systems.
• Develop a mobile application for cross-platform support. If both tablets and phones are to be supported, develop separate user interface layouts and navigation schemes for each. Use a development environment that provides cross-platform support using a single code base. Design a feature for data backup and retrieval in the event of mobile device failure.
• Add inactivity reports and/or hail-in, hail-out procedures to the logbook reporting protocol to add additional tools for identifying late and missing reports.

1.2. Project Description

The Alaska Department of Fish and Game (ADF&G) plans to implement a new electronic logbook system for both freshwater and saltwater recreational fishing guides and guide businesses (i.e., for-hire industry). The new system will provide an electronic method to enter and submit logbook data to largely (though not completely) replace paper logbooks currently in use. An electronic logbook system will be more efficient and cost-effective than the paper logbooks. The paper logbook system is expensive, requiring much department staff time to enter and edit logbook data in addition to printing costs. There are significant time lags created by mailing logbooks to ADF&G, sorting and scanning logbooks, data entry, data editing and follow-up with the for-hire industry to improve data accuracy, and other such procedures. These time lags impact the availability of data inseason for fisheries management and enforcement, and post-season for providing information to the public and regulatory bodies. An electronic logbook system will provide better data editing mechanisms for the user that will reduce costs and improve both the accuracy and timeliness of data from the for-hire industry.

ADF&G is committing financial and other resources to implement an electronic logbook system. This proposal seeks funding to support this effort with the design, development and testing of the new system. The project will address the following MRIP priorities:

• Assessment of data needs (e.g. precision, resolution, timeliness, etc.) to support science and/or management; and

• Development and testing of new technologies, such as electronic data capture and online reporting, to support recreational fisheries data collection.

It should be noted that the new electronic system will provide data on an angler/angler-trip basis, a level of data resolution not found in most for-hire logbook programs.

The intended outcome of this project is development and use of an electronic logbook system for the saltwater recreational fisheries for-hire industry in Alaska. Additional outcomes include reduced costs and user burden to record and report data from the for-hire industry, and improved accuracy and timeliness of the data. These outcomes align with recommendations in Chromy et al. (2009).

1.3. Objectives

1. Design and develop internet and mobile applications for electronic logbook data entry and reporting for recreational saltwater for-hire vessels operating in Alaska.
2. Implement QA/QC processes and follow-up data editing mechanisms to improve accuracy and timeliness of reported data.
3. Design field validation procedures conducted by on-site marine creel survey and dockside sampling project staff.
4. Conduct outreach to the for-hire fishery industry, stakeholders and the public to garner acceptance and support of the electronic logbook system.

1.4. References

Chromy, J.R., S.M. Holland, and R. Webster. 2009. Consultant's report: for-hire recreational fisheries surveys. Meyer, S. and R. Powers. 2009. Evaluation of Alaska charter logbook data for 2006-2008. Discussion paper for the North Pacific Fishery Management Council, September 21, 2009. Alaska Department of Fish and Game, Anchorage, AK. Sigurdsson, D., and B. Powers. 2013. Participation, effort, and harvest in the sport fish business/guide licensing and logbook programs, 2012. Alaska Department of Fish and Game, Fishery Data Series No. 13-37, Anchorage. Sigurdsson, D., and B. Powers. 2012. Participation, effort, and harvest in the sport fish business/guide licensing and logbook reporting programs, 2011. Alaska Department of Fish and Game, Fishery Data Series No. 12-27, Anchorage. Sigurdsson, D., and B. Powers. 2011. Participation, effort, and harvest in the sport fish business/guide licensing and logbook reporting programs, 2010. Alaska Department of Fish and Game, Fishery Data Series No. 11-31, Anchorage. Sigurdsson, D., and B. Powers. 2010. Participation, effort, and harvest in the sport fish business/guide licensing and logbook reporting programs, 2009. Alaska Department of Fish and Game, Fishery Data Series No. 10-65, Anchorage. Sigurdsson, D., and B. Powers. 2009. Participation, effort, and harvest in the sport fish business/guide licensing and logbook reporting programs, 2006-2008. Alaska Department of Fish and Game, Special Publication No. 09-11, Anchorage.

2. Methodology

2.1. Methodology

Logbook reporting is a mandatory process governed by regulation. As such, the reporting process is considered a census of all for-hire angler-trips. Logbooks require reporting of angler license numbers and the harvest and release numbers by individual angler to improve reporting and facilitate evaluation of the quality of logbook data. Annual design changes in the saltwater logbook will be driven primarily by changes or improvements in the collection of halibut and rockfish data, and by requests from the NPFMC for information needed for allocation of halibut. Other changes will be made to improve or simplify the use of the system based on operator input, and to improve the collection of client and crew harvest information.

In 2011, ADF&G worked collaboratively with National Marine Fisheries Service (NMFS) to modify the logbook requirements associated with the federal Charter Halibut Permit (CHP) program, a program that establishes limited access to the guided halibut fishery. The 2011 saltwater logbook was designed to capture CHP numbers associated with the permits granted by the NMFS to qualifying participants in the sport fish charter halibut fishery. That same year NOAA Fisheries proposed regulations to authorize guided angler fish (GAF) for the charter halibut fisheries in Alaska within a catch sharing plan (CSP). The proposed GAF regulations included a requirement for charter operators to record GAF harvest information in the saltwater logbook. ADF&G again worked with the NMFS to review the options of collecting halibut data harvested under the proposed catch sharing plan as Guided Angler Fish by redesigning the logbook.

At minimum the following information will be obtained by the saltwater electronic logbook:
• Date that fishing took place.
• Time that trip ended.
• ADF&G guide license number for the guide leading the trip.
• CHP Number.
• Primary statistical area fished while targeting salmon or bottomfish.
• Number of Hours fished.
• Port or community where trip ended.
• Guided Angler Fish (GAF) Permit Number
• Crew, client, and “comped” angler’s current ADF&G sport fishing license or PID (permanent fishing license) number, the word “YOUTH” for anglers under 16.
• First and last name of each client and youth angler.
• Client residency (Alaska resident/nonresident of Alaska).
• Indication if angler was a crew member or if angler was “comped.”
• Signature of angler who kept halibut while fishing in IPHC area 2C only (Southeast).
• A breakdown by fish species kept and released by each individual angler.

During a saltwater charter trip, the operator determines if the fishing gear or fishing methods used

by clients are effectively targeting bottomfish, salmon or both. A 6-digit statistical code where most of the fish were caught or targeted will be logged for each trip.

An outreach program exists to contact as many operators as possible to field questions and to ensure compliance with the reporting requirements. The outreach program will be conducted on-site (in the field) by ADF&G employees and off-site from the Anchorage ADF&G office. On-site outreach entails “courtesy logbook inspections” conducted as time allows by ADF&G creel and port sampling technicians during their regular dockside checks of the primary fisheries from May through September. Off-site outreach will be conducted by phone calls to business owners and guides for follow up and clarification of data recorded on logbook pages. Follow up phone calls have been a valuable outreach tool and will continue to be a standard procedure in the future.

Computer routines will be used to check and validate a number of saltwater logbook data fields both during and after the fishing season. In addition, logbook data will be compared to actual counts of harvested fish (verified) and to reported harvest data (unverified) from onsite interviews. These comparisons are ongoing and are part of a more comprehensive evaluation of logbook data quality (Meyer and Powers 2009).

Two methods will be used to conduct post-season verification of logbook data:

• Comparison between logbook data and guided trip information collected from the Alaska Statewide Harvest Survey.
• Comparison between logbook data and data collected by the saltwater marine creel and dockside fishery sampling programs conducted by ADF&G.

2.2. Regions

2.3. Geographic Coverage

Alaska. Vast majority of for-hire activity occurs in the North Pacific & Gulf of Alaska.

2.4. Temporal Coverage

March 2015 – December 2017

2.5. Frequency

Data entered/recorded daily, reported at least weekly to ADF&G

2.6. Unit of Analysis

Angler-trip, vessel-trip

2.7. Collection Mode

Online electronic logbook report

3. Communications Plan

3.1. Internal

Members of the project team will meet at least bi-monthly to evaluate project status, identify issues remaining for project implementation, and delegate work assignments. Coordination activities outside of scheduled meetings will mostly be made in person, however, some email and phone contact will occur. Meeting notes and all business rules related to collecting logbook data will be documented and stored in an online repository for team members to access.

Division of Sport Fish regional and area office staff, especially management biologists, will be notified about the project, including pilot project(s) and final implementation, during staff meetings and by email. The project team will periodically (e.g., quarterly, semi-annually) update Division of Sport Fish leadership on project development and implementation, and meet with ADF&G Administrative Services-Licensing and web IT staff to ensure this project integrates with department-wide web-based programs.

3.2. External

Staff will host project outreach meetings with for-hire associations. Prior to full implementation we will meet with a few of these associations to solicit volunteers to pilot the project and will also meet to share the results of the pilot project. During the pilot project there will be the opportunity for any and all testers to communicate questions, comments or concerns via email or phone.

Information (e.g., FAQ-type format) will be posted on the ADF&G for-hire licensing/registration web page. Information about use of electronic logbooks will be provided along with the annual licensing/registration application or renewal. More informal discussions will occur with members of the for-hire industry during trade shows.

Project status reports will be provided monthly through MRIP Data Management System (MDMS) as well as a final report.

4. Assumptions and Constraints

4.1. New Data

Yes

4.2. Track Costs

Yes

4.3. Funding Vehicle

Grant to ADF&G

4.4. Data Resources

ADF&G License database, current ADF&G paper logbook program

4.5. Other Resources

ADF&G postal survey (aka Statewide Harvest Survey) of households having a licensed angler, ADF&G marine creel and dockside sampling projects, enforcement efforts by Alaska Department of Public Safety-Division of Wildlife Troopers and NMFS-OLE

4.6. Regulations

Current State of Alaska statute requires all recreational fishing guides and guide businesses be licensed with the State. The licensing requirement will sunset 1 January 2015 at which time, by regulation, all guides and guide businesses must register with the State. Legislation was introduced in the 2015 legislative session to re-institute the licensing program; hopefully this legislation will passed by the Alaska Legislature in 2015 to become effective no later than 1 January 2016. Both licensing and registration require, by regulation, that guides possess a logbook while guiding clients.

Regulatory language recommended by the NPFMC and adopted by the IPHC affect the for-hire halibut fishery in Alaska. Currently this includes daily bag limit, size limits of harvested halibut, and other mechanisms that regulate harvest potential of the for-hire sector.

4.7. Other

New data will be at request of for-hire industry specific to information desired for business operation purposes (e.g., fuel use). Angler, trip and biological data will be same as that currently

collected by paper logbook program.

It is unlikely the for-hire industry will be required to use electronic logbooks to record and report required data. At minimum some ports, lodges and guide businesses in Alaska are too remote to have consistent, stable source of electricity and/or internet connection to meet recording and reporting requirements in regulation. The current paper logbook program will remain; however, with time and consistent good public outreach it is likely the number of businesses in the for-hire industry using paper logbooks will become a small portion of the overall for-hire fishing activity.

5. Risk

5.1. Project Risk

Table 1: Project Risk

Risk Description	Risk Impact	Risk Probability	Risk Mitigation Approach

6. Final Deliverables

6.1. Additional Reports

Monthly, quarterly and annual reports as required by MRIP.

6.2. New Data Sets

A new database will be developed to contain and archive data for the e-logbook program.

6.3. New Systems

New e-logbook recording and reporting systems will be developed for the e-logbook program.

7. Project Leadership

7.1. Project Leader and Members

Table 2: Project Members

Project Role	Name	Organization	Title

8. Project Estimates

8.1. Project Schedule

Table 3: Project Schedule - Major Tasks and Milestones

#	Schedule Description	Planned Start	Planned Finish	Prerequisites	Milestones

8.2. Cost Estimates

Table 4: Cost EstimatesYes

Project Need	Cost Description	Date Needed	Estimated Cost
TOTAL			$0.00